



Communicable Disease and Epidemiology News

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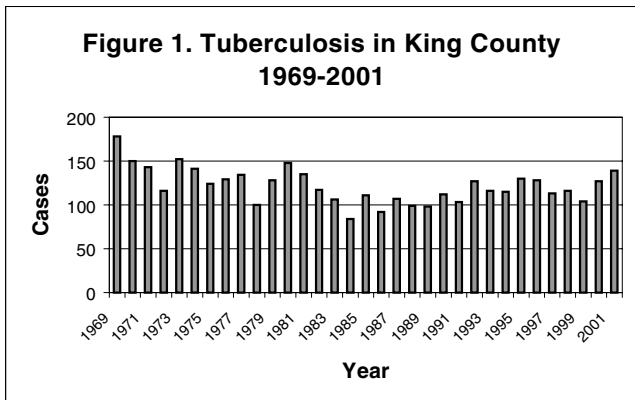
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Tuberculosis in King County

TUBERCULOSIS IN KING COUNTY - 2001

There were 139 cases of tuberculosis (TB) reported in King County in 2001, compared with 127 cases in 2000, and 104 in 1999 (Figure 1). The incidence of tuberculosis in King County in 2001 was 8 cases/100,000 (based on the 2000 census), compared with a tuberculosis rate for the State of Washington of 4.4 cases/100,000, and for the United States as a whole of 5.6 cases/100,000.



Sixty percent (84) of cases were male. Three-percent (4) of cases were ages 0-4, 3% (4) were ages 5-14, 41% (57) were 15-34, 38% (53) were 35-64, and 15% (21) were over age 64. The race and ethnic breakdowns are as follows: 19% (206) were white, non-Hispanic, 25% (35) were black, non-Hispanic, 8% (11) were Hispanic, 4% (5) were Native American, 43% (60) were Asian or Pacific Islander, and 1% (2) were unknown. Thirty-five percent (49) had not been employed in the 24 months prior to their diagnosis, and 6% (9) were health care workers. Seventy-seven percent (107) of cases were foreign-born.

Other risk factors for tuberculosis were homelessness: 9% (12) – and HIV infection: 6.5% (9). Seventy-three percent (101) of cases were tested for HIV infection. Among the highest risk age group (ages 25-44), 82% (46) were tested for HIV. The program continues to try to increase HIV testing to meet the Centers for Disease Control and Prevention (CDC) recommendation that all tuberculosis cases receive HIV testing, but it does exceed CDC's minimum standard of testing 75% of cases in the 25 to 44 year age group. Recent contact with infectious tuberculosis is the most important risk factor for developing active disease and for identifying a missed prevention opportunity. Six percent (8) of cases had contact with active tuberculosis within the previous two years.

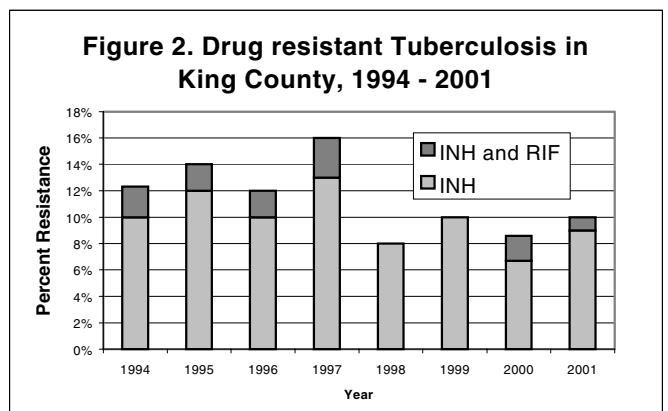
Reporting of Suspect Tuberculosis Cases

During 2001 the TB Control Program received 344 reports of suspected tuberculosis cases, a 37% increase compared to 2000 (252 suspects). **Washington Law requires the report of suspected cases of tuberculosis because important public health interventions, such as investigation of contacts, may be indicated immediately, even before the diagnosis is certain.** Reporting of suspected tuberculosis cases, therefore, is an indicator of medical practitioners' awareness of tuberculosis. It is also a measurement of work burden for the TB Program's staff, as reported tuberculosis suspects often require consultation, contact investigations, monitoring of clinical status, cultures, and compliance with treatment, although in 2001 only 40% of reported suspects became actual cases of tuberculosis.

Approximately 2/3 of cases of active tuberculosis is managed by the TB clinic; most of these by directly observed therapy (DOT). The TB Program's DOT Team delivered approximately 8,000 doses of tuberculosis medication directly to patients in the community during 2001. The average monthly DOT roster in 2001 numbered 67 cases, with a range of 55 to 82. All reported cases are considered for DOT, though in some cases, direct observation may be a disincentive to treatment and individual physicians may determine that it is not appropriate for selected patients. The management of some cases of tuberculosis by pulmonologists, infectious disease specialists, and primary care providers insures that our community maintains a broad level of expertise and awareness of this disease.

Antibiotic Sensitivity

Ninety-one percent (126) of cases were verified by positive cultures. Antibiotic sensitivity results were recorded on 98% (123) of these cases. Among cases with sensitivity to a single drug, 10% (12) show isoniazid resistance, 1.6% (2) show rifampin resistance, and 16% (20) show resistance to drugs other than isoniazid and rifampin (mostly streptomycin). Among cases with multiple-drug-resistant tuberculosis (MDR-TB), <1% (1) showed resistance to isoniazid and rifampin, and 7% (9) showed resistance to two or more drugs, but not the combination of isoniazid and rifampin. These drug resistance rates have been stable or have declined slightly during the past decade (Figure 2). Treatment of MDR-TB tends to be much more complicated, costly, and lengthy in comparison to treatment of cases with sensitivity to one or both of the most effective tuberculosis drugs, isoniazid and rifampin. Inadequate or inappropriate treatment can lead to the development of MDR-TB, and a consistently low rate



of this form of the disease is one measure of effective tuberculosis control.

Fifty-three percent (74) of cases had only pulmonary tuberculosis, 39% (54) had only extra pulmonary tuberculosis, and 7% (10) had both pulmonary and extra-pulmonary tuberculosis (one case did not have a disease site stated). Of the 84 pulmonary tuberculosis cases, 45% (38) were sputum smear positive and 83% (70) were sputum culture positive. The 23 cases who had negative sputum smears, but positive sputum cultures, represent individuals who were identified early, whose disease had not progressed to a stage of severe illness or of high infectiousness.

Tuberculosis Deaths

Of the five King County residents who died with pulmonary tuberculosis, three died within two weeks of being hospitalized for severe respiratory symptoms. Of these three, one was a 76 year old, US-born, white man with no known tuberculosis risk

factors; one was a 47 year old, homeless, HIV infected, Hispanic man who had immigrated from Mexico 25 years before; and one was a 30 year old woman from India, who had been in this country for six years. One death was of a 76-year-old, US-born, white man with pulmonary tuberculosis, who died of renal failure (unrelated to tuberculosis) after two months on treatment. The fifth, an 80 year-old man from the Philippines, died of metastatic lung cancer before a tuberculosis diagnosis was also made from a sputum culture that was AFB-smear-negative.

Tuberculosis in Foreign Born Persons

The trend of increasing cases among African immigrants, that was reported last year, continues. Among the 107 foreign born cases, 25% (27) were born in Africa, an 8% increase compared to 2000. Of these African-born cases, 12 cases came from Ethiopia, 12 from Somalia, and 1 each from Kenya, Rwanda, and Uganda. As reported last year, this trend appears to have begun in 1998, and it appears to approximately mirror a decreasing trend of new cases among immigrants from Southeast Asia.

The American Thoracic Society and the CDC recommend that, persons arriving from tuberculosis endemic areas be targeted for testing and treatment during the first 5 years they reside in the US. Among the 107 foreign-born cases in King County in 2001, 41% (44) were diagnosed within the first five years of arrival in the United States.

Challenges

Challenges for the TB program this year are to work with the community in expanding effective partnerships, especially for targeted testing and treatment of latent tuberculosis infection, and to continue to expand its research program. One successful CDC-supported project has been the development of a targeted testing and treatment approach for latent tuberculosis infection in partnership with community clinics. The TB Program currently participates in two CDC-sponsored 10-year research consortia: the tuberculosis Trials Consortium (TBTC), for evaluating new treatment regimens and diagnostic tests, and the tuberculosis Epidemiologic Studies Consortium (TBESC), for studying epidemiologic, behavioral, economic, and laboratory issues in tuberculosis control. The Program also participates in a CDC-sponsored study of contact investigations among foreign-born persons, in partnership with San Diego and the state of Hawaii.

The TB Control Program and Harborview Medical Center’s Community House Calls Program concluded a two and a half year program during 2001 that piloted a socially supportive, case-management program for tuberculosis prevention services by hiring and training recent immigrants to work as outreach workers in their communities. These workers called, visited, educated, and encouraged patients under treatment (for active and latent tuberculosis), and served as cultural mediators between patients and their health care providers. The workers also assisted with resettlement issues unrelated to tuberculosis, such as social needs, education, and other health issues. Treatment acceptance and completion were compared for new refugees from the countries of

Somalia, former Yugoslavia, and the Former Soviet Union (the targeted communities), before and during the pilot program.

The acceptance rate for treatment of latent tuberculosis infection among refugees in the targeted communities increased from 51% (46/90) in 1998 (the year prior to the start up), to 86% (224/260) in 2000. The rate of treatment completion increased from 50% (23/46) in 1998 to 87% (194/224) in 2000.

Reinvigorating treatment of refugees and other immigrants with latent tuberculosis infection remains an important priority for King County if future tuberculosis cases are to be prevented. **Anecdotal evidence suggests that few refugees or other immigrants with tuberculosis infection, who are referred to community providers outside of carefully structured, Public Health-supported programs, actually start and complete treatment.** Furthermore, new refugees comprise only a small fraction of new foreign-born residents, according to U.S. Department of Justice data. Many of the non-refugee residents have the same risk factors for tuberculosis infection and are even more marginalized from health care services, including tuberculosis testing and treatment. Other points of access to non-refugee immigrants at high risk for tuberculosis infection can be identified if testing, follow-up, and treatment structure and resources can be developed.

Summary

A look at case numbers from 1969 to the present suggests that the steady decrease in case numbers through the 1970s and early 1980s has reversed. Seattle and King County appear to be experiencing an increasing trend in tuberculosis case numbers as we enter the new century. Reversing this trend will require a concerted effort, and can be successful with a multifaceted, community-based approach to tuberculosis control, in concert with the Washington State TB Advisory Council. These approaches include categorical public health efforts, innovative partnerships with and education of local health care providers, and the involvement of representatives of the affected communities.

Corrections to TB Case Reports

Tuberculosis case numbers were incorrectly calculated for the January through April 2002 issues of the *Epi-Log*. Corrected tuberculosis cases numbers for these months can be found on the *Epi-log* Website at: www.metrokc.gov/health/providers

Disease Reporting

AIDS (206) 296-4645

Communicable Disease..... (206) 296-4774

STDs (206) 731-3954

Tuberculosis..... (206) 731-4579

24-hr Report Line..... (206) 296-4782

Hotlines:

CD Hotline..... (206) 296-4949

HIV/STD Hotline..... (206) 205-STD5

Past issues of the *Epi-log* can be found at:

www.metrokc.gov/health/providers

Reported Cases of Selected Diseases, Seattle & King County 2002				
	Cases Reported in May		Cases Reported through May	
	2002	2001	2002	2001
AIDS	39	17	145	147
Campylobacteriosis	26	34	110	124
Cryptosporidiosis	1	1	5	10
Chlamydial infections	394	453	1768	1788
Enterohemorrhagic <i>E. coli</i> (non-O157)	0	0	0	3
<i>E. coli</i> O157: H7	1	3	4	6
Giardiasis	21	10	91	55
Gonorrhea	123	113	604	622
<i>Haemophilus influenzae</i> (cases <6 years of age)	0	0	0	0
Hepatitis A	3	2	21	7
Hepatitis B (acute)	2	2	9	15
Hepatitis B (chronic)	54	45	206	216
Hepatitis C (acute)	0	2	6	7
Hepatitis C (chronic, confirmed/probable)	126	122	655	585
Hepatitis C (chronic, possible)	43	44	217	215
Herpes, genital	59	72	274	329
Measles	0	0	0	12
Meningococcal Disease	2	2	0	5
Mumps	0	0	0	0
Pertussis	16	42	5	7
Rubella	2	2	0	0
Rubella, congenital	0	0	0	0
Salmonellosis	12	31	62	97
Shigellosis	2	8	19	27
Syphilis	2	6	15	27
Syphilis, congenital	0	0	0	0
Syphilis, late	8	9	17	20
Tuberculosis	12	16	56	48

Alternate formats available upon request.